

STAFF REPORT
Application # IWW, WPL -11055-20
4 Hockanum Road
Assessor's Map: D13 Tax Lot: 095
Public Hearing September 23, 2020
Prepared August 5, 2020, last revised September 16, 2020

Receipt Date: September 23, 2020

Application Classification: Plenary

Application Request:

Applicant is requesting to re-grade the rear portion of their property adjacent to Willow Brook, to relocate the existing driveway, and to construct a 2-car garage. The work is within the upland review area from wetlands and within the WPLO from Willow Brook

IWW and WPLO Regulated Areas

IWW setbacks determined for this property include a 50' review area for additions, 30' review area for the driveway, and a 20' non-disturbance buffer for the proposed grading and drainage from wetland boundaries.

The Waterway Protection Line Ordinance dictates that the WPL boundary be located 15' from the 25-year floodplain. The work for the addition, grading and drainage are proposed within the WPL.

Plans reviewed:

"Proposed Site Improvements to Alleviate Flooding for Willow Brook prepared for Andrew S. & Michelle M. Ludel 4 Hockanum Road, Westport, CT", Scale: 1"=20', dated April 29, 2019 and last revised to June 2, 2020, prepared by Landtech

"Map of Property prepared for Andrew S. and Michelle M. Ludel 4 Hockanum Road, Westport, Connecticut", Scale: 1"=20', dated September 10, 2007, prepared by Hammons LLC

"Stormwater Management Narrative 4 Hockanum Road Westport, Connecticut Conservation Commission Application", Dated July 23, 2020, prepared by Landtech

"Draft – Floodplain Modeling for Hockanum Road Westport, CT" addressed to Robert Pryor, dated April 16, 2020, prepared by GZA Geo Environmental, Inc.

Background Information:

1. Application #IWW/M 11017-20 adopted new wetland location onsite by the Conservation Commission on July 15, 2020
2. The pre-existing house onsite was built in 1957.
3. The property is 1.10 acres (47,999 sq. ft.) in size.

4. It is located in the Willow Brook watershed and Willow Brook flows from east to west across the rear yard. No FEMA flood zone is associated with this property as it was outside their study area, however the property has a 100-year flood elevation taken from GZA Geoenvironmental Inc. flood study, dated April 16, 2020. 25-year flood elevation verified by Keith Wilberg, Town Engineer is 44.1 msl..
5. The property is not within the Aquifer Protection Overlay Zone.
6. Property does not exist within the Coastal Areas Management Zone.
7. The Waterway Protection Line Ordinance boundary is established at 15' from the edge of the 25-year flood line.
8. The existing residence has flooded multiple times from storm water and overflow from Willow Brook.
9. The flagged wetland area is 4,987 sq. ft. Wetland soil types found onsite:
 - Aquents (Aq): This soil type generally has less than two (2) feet of fill over naturally occurring poorly or very poorly drained soils, or are located where the naturally occurring wetland soils are no longer identifiable, or the original soil materials have been excavated to the ground water table within twenty (20) inches of the soil surface, have an aquatic moisture regime and can be expected to support hydrophytic vegetation.
 - Raypol silt loam (12): This soil type is nearly level, poorly drained soil found in depressions, on plains and terraces. The soil has a seasonal high water table at a depth of 6 inches from fall until late spring
10. Existing driveway = 2,288 sq. ft.
Proposed driveway = 933 sq. ft.
Proposed garage = 621 sq. ft.
Difference of total site coverage pre and post construction = **-734 sq. ft.**
11. Flood & Erosion Control Board reviewed this application pursuant to the WPLO on September 2, 2020

Conformance to Section 6 of the Inland Wetlands and Watercourses Regulations

6.1 GENERAL STANDARDS

- a) disturbance and pollution are minimized;
- b) minimize height, width, length of structures are limited to the minimum; dimension to accomplish the intended function;
- c) loss of fish, other beneficial organisms, wildlife and vegetation are prevented;
- d) potable fresh water supplies are protected from dangers of drought, overdraft, pollution, misuse and mismanagement;
- e) maintain conservation, economic, recreational and aesthetic qualities;
- f) consider historical sites

Discussion:

This property has experienced repetitive flooding over the years with water entering the house by way of the underground garage that leads into the basement. The house is located within the 100-yr flood zone of Willow Brook as determined by the GZA Geoenvironmental Inc. flood study of 2020. The particular characteristics of the house

construction, if left untouched, will lead to future flooding conditions during extreme storm events unless changes occur.

The driveway area is essentially within a concave, depressed area bordered by the garage/house to the north, a retaining wall to the west, an earthen berm to the south, and Hockanum Road to the east. The existing driveway slopes from Hockanum Road (elevation ~45.0') down to the garage entrance (elevation 42.78'). An existing area drain for the driveway is located within the paved area at elevation 42.01'. The height of the berm that separates the driveway is elevation 44.0'. The elevation for the brook is ~39.6' measured at the toe-of-slope. The 25-year flood plain elevation is 44.10 and 100-year flood plain elevation is 44.36'

The applicant proposes to remove the depressed portion of the driveway, fill in the area, and construct a two-bay garage adjacent to the residence at elevation 46.9'. The grading will create a gentle slope from the house to the existing berm effectively removing the 25 and 100-year flood line from intersecting with the residence. The overall impervious coverage for the site would be reduced by 734 sq. ft. The driveway entrance from Hockanum Road will be adjusted slightly and a new parking/turning area is provided.

The application materials show a breezeway connection to the residence on the site plan and, a garage sketch without a breezeway. Discussions among the applicant and the Conservation Department revealed that the owners are not positive whether or not the garage will be detached or attached but were seeking approval for attached as of now.

6.2 WATER QUALITY

- a) flushing rates, freshwater sources, existing basin characteristics and channel contours will not be adversely altered;
- b) water stagnation will neither be contributed nor caused;
- c) water pollution will not affect fauna, flora, physical or chemical nature of a regulated area, or the propagation and habitats of fish and wildlife, will not result;
- d) pollution of groundwater or a significant aquifer will not result (*groundwater recharge area or Aquifer Protection Overlay Zone*);
- e) all applicable state and local health codes shall be met;
- f) water quality will be maintained or improved in accordance with the standards set by federal, state, and local authority including section 25-54(e) of the Connecticut General Statutes
- g) prevents pollution of surface water

Discussion:

Currently, the surface water from the driveway discharges to an area drain near the southeastern corner of the paved surface. This discharges directly to the watercourse onsite without any treatment for pollutants or providing stormwater storage.

The proposed project for the addition and associated fill will include a level spreader to disperse the stormwater runoff from the roof leaders of the new addition. The level

spreader will discharge to the planted area consisting of New England Soil Erosion Control mix, along the slope/bank of Willow brook.

The water quality classification for Willow Brook (Connecticut Environmental Conditions Online, <http://www.cteco.uconn.edu/>), is Class A water. The Class A designation indicates that this is uncontaminated surface water, is uniformly good to excellent, natural quality and is suitable for use as a public drinking water supply.

6.3 EROSION AND SEDIMENT

- a) temporary erosion control measures shall be utilized during construction and for the stabilization period following construction;
- b) permanent erosion control measures shall be utilized using nonstructural alternatives whenever possible and structural alternatives when avoidable;
- c) existing circulation patterns, water velocity, or exposure to storm and flood conditions shall not be adversely altered;
- d) formation of deposits harmful to aquatic life and or wetlands habitat will not occur;
- e) applicable state, federal and local guidelines shall be met.

Discussion:

Willow Brook's natural drainage pattern flows from east to west on site. Slope disturbance can result in adverse consequences to watercourses. Erosion and sediment from construction sites can impair water supplies, the biological integrity of a waterbody and the local hydrology. The applicant proposes to add water through a level spreader along the top of the slope adjacent to the watercourse. The proposed area is to be stabilized with herbaceous vegetation and grasses found in the New England Erosion Control Mix. Staff notes that the use of trees and shrubs growing along streambanks help to bind the soil, giving the banks stability. Additionally, vegetation slows the movement of floodwater through wetland areas, reducing erosive flow velocities on floodplain. Staff would promote adding more plantings, in addition to the two existing spruce trees in order to add stability and help erosion of the embankment. An erosion control blanket could assist in stabilization, post construction, until the vegetation matures.

Currently the site plan indicates the sediment controls to be silt fence installed at the toe of slope surrounding the project area. Staff recommends adding an additional row of fence along the top of slope during construction to capture any sediment runoff from the work area.

6.4 NATURAL HABITAT STANDARDS

- a) critical habitats areas,
- b) the existing biological productivity of any Wetland and Watercourse shall be maintained or improved;
- c) breeding, nesting and or feeding habitats of wildlife will not be significantly altered;

- d) movements and lifestyles of fish and wildlife (plant and aquatic life) will not be significantly affected;
- e) periods of seasonal fish runs and bird migrations shall not be impeded;
- f) conservation or open space easements will be deeded whenever appropriate to protect these natural habitats.

Discussion:

The vegetation within the riparian corridor for Willow Brook provides shelter and habitat for wildlife. The existing vegetation within this area helps shade the water and provide cover for both fish and terrestrial animals. Additionally, plantings provide the main source of organic detritus forming the basis of the food chain. Staff notes that every effort should be made to preserve existing woody vegetation along the streambank.

The property also contains areas that are partially manicured along streamside channel. Staff recommends the addition of more plantings along the stream bank of Willow Brook to restore a more natural condition and increase existing habitat and shelter for wildlife onsite. Staff recommends the applicant provide a landscape plan that includes more plantings along the northern bank of Willow Brook.

6.5 DISCHARGE AND RUNOFF

- a) the potential for flood damage on adjacent or adjoining properties will not be increased;
- b) the velocity or volume of flood waters both into and out of Wetlands and Watercourses will not be adversely altered;
- c) the capacity of any wetland or watercourse to transmit or absorb flood waters will not be significantly reduced;
- d) flooding upstream or downstream of the location site will not be significantly increased;
- e) the activity is acceptable to the Flood & Erosion Control Board and or the Town Engineer of the municipality of Westport

Discussion:

As stated in the “Stormwater Management Narrative”, the applicant proposes to decrease overall impervious areas onsite reducing the amount of stormwater runoff from the property. New runoff from the proposed garage and driveway will be directed from roof leaders and as sheetflow into the 20’ long level spreader south of the garage, near the top of slope. The water will be allowed to filter through the planted area leading down to the brook. As stated before, staff recommends the applicant provide a landscape plan that includes more plantings along the northern bank of Willow Brook to manage the flow of water and aid with pollutant removal from discharge.

The applicant also provided a report entitled “Draft – Floodplain Modeling for Hockanum Road Westport, CT” from GZA, where it modeled the impact of construction within the 100-year floodplain for Muddy Brook. The conclusion found that the proposed condition will result in “**less than a 0.1 ft increase in water surface elevation**”. It also showed negligible impacts to water elevations upstream and

downstream of the site. The Engineering Department and Conservation Staff agree that this proposal is not a significant change to the floodplain.

6.6 RECREATIONAL AND PUBLIC USES

- a) access to and use of public recreational and open space facilities, both existing and planned, will not be prevented;
- b) navigable channels and or small craft navigation will not be obstructed;
- c) open space, recreational or other easements will be deeded whenever appropriate to protect these existing or potential recreational or public uses;
- d) wetlands and watercourses held in public trust will not be adversely affected.

Discussion:

The property currently does not provide public or recreational use. The proposed development will not affect recreational and public uses, navigable channels and/or small craft navigation.

CRITERIA TO BE CONSIDERED BY THE COMMISSION

In carrying out the purposes and policies of the IWW regulations for the Town of Westport Section 5.0 and Sections 22a-36 to 22a-45(a,) inclusive, of the Connecticut General Statutes, including matters relating to regulating, permitting and enforcing of the provisions thereof, the Commission shall take into consideration all relevant facts and circumstances, including, but not limited to:

- (a) The environmental impact of the proposed regulated activity on wetlands or watercourses;
- (b) The applicant's purpose for, and any feasible and prudent alternatives to, the proposed regulated activity which alternatives would cause less or no environmental impact to wetlands or watercourses;
- (c) The relationship between the **short-term** and **long-term impacts** of the proposed regulated activity on wetland or watercourses and the maintenance and enhancement of long-term productivity of such wetlands or watercourses.
- (d) Irreversible and irretrievable loss of wetland or watercourse resources which would be caused by the proposed regulated activity, including the extent to which such activity **would foreclose a future ability to protect**, enhance or restore such resource and any mitigation measures which may be considered as a condition of issuing a permit for such activity
- (e) The character and degree of injury to, or interference with, safety, health or reasonable use of property which is caused or threatened by the proposed regulated activity
- (f) Impacts of the proposed regulated activity on wetlands or watercourses outside the area for which the activity is proposed and **future activities** associated with, or reasonably related to, the proposed regulated activity **which are made inevitable** by the proposed regulated activity and which may have an impact on wetlands or watercourses. ; and
- (g) The degree to which the proposed activity is consistent with all applicable goals and policies set forth in Section 1.3 and 1.4 of these Regulations and Section 22a-36 of the Connecticut General Statutes, as amended.

Waterway Protection Line Ordinance

Section 148-9 of the Waterway Protection Line Ordinance states that the applicant shall submit information to the Conservation Commission showing that such activity will not cause water pollution, erosion and/or environmentally related hazards to life and property and will not have an adverse impact on the preservation of the natural resources and ecosystem of the waterway, including but not limited to impact on ground and surface water, aquifers, plant and aquatic life, nutrient exchange and supply, thermal energy flow, natural pollution filtration and decomposition, habitat diversity, viability and productivity and the natural rates and processes of erosion and sedimentation.

The Waterway Protection Line boundary exists 15' from the 25-year flood line onsite. The Flood & Erosion Control Board has approved this application on September 2, 2020 with standard conditions.

Staff supports the applicant's effort to reduce the frequency of flooding in the residence. Any erosion of soils and pollutants entering the watercourse should be minimized provided the erosion controls are properly installed and maintained throughout construction. Staff feels that long-term slope stabilization will occur by the addition of more plantings along the stream bank of Willow Brook and will benefit resources by limiting erosion and provide biofiltration of pollutants from any runoff. Staff feels this will not significantly impact resources as they are protected under the Waterway Protection Line Ordinance.

Alternatives for reduction of impacts:

1. No build alternative.
2. Approve Application with the following modifications to plans listed above:
 - a) Provide a planting plan prior to issuance of a Zoning Permit, for area down slope of the level spreader along the slope that substitutes native perennial herbaceous and woody plantings in addition to the seed mix. Plan shall incorporate the use of an erosion control blanket.
 - b) All planting within 20' from the wetland area shall be done by hand. Mulching within this area shall be done with organic leaf mulch. Plantings must be installed prior to the issuance of a CCC. The Commission may also want to consider posting of a bond.
 - c) The site engineer shall oversee the drainage installation and certify that it is installed correctly prior to the issuance of a CCC. Test Pits must be done to ensure that it is sufficiently designed to be above the groundwater to provide water quality and proper functioning.
 - d) Install erosion control prior to construction commencement just outside the limit of disturbance as shown on the site plan. An additional row of silt fence shall be installed at the edge of the top of slope near the level spreader. Additionally add

staked hay bales to reinforce the silt fence. An erosion control blanket will be needed as part of final slope stabilization.

- e) Conservation Department to be contacted 48 hours prior to construction commencement.
- f) Conformance to Flood & Erosion Control Board conditions of approval, dated September 2, 2020.